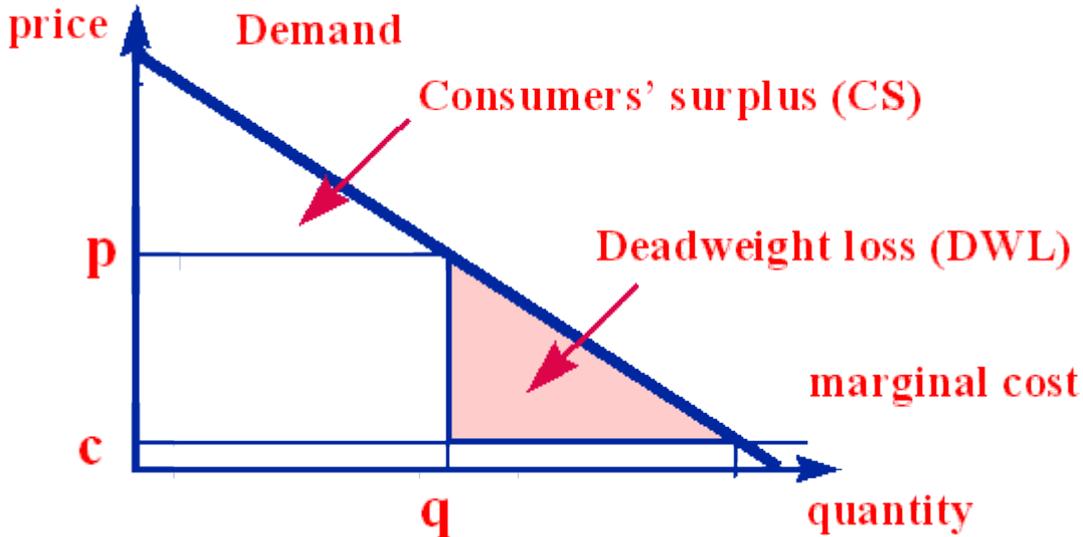Answer on Question #47995, Economics, Microeconomics

MC = c, D(p) = 180 – p, p = 180 - D(p), q = 80.
a) Illustrate graphically the monopoly's profit maximization.

b) Calculate the monopoly's marginal cost c.
If q = 80, then p = 180 - 80 = $100
Quantity is maximized in point, where MR = MC
MR = TR' = (p*q)' = ((180 - q)q)' = 180 - 2q
As q = 80, then MC = MR = 180 - 2*80 = 20
c) Calculate the monopoly's profit in case it has a fixed cost of 1400.
If FC = 1400 and MC = TC' = 20, then TC = 1400 + 20q = 1400 + 20*80 = 3000
TP = TR - TC = p*q - TC = 100*80 - 3000 = $5000
d) Calculate the social welfare (or deadweight) loss caused by the monopoly (not taking into account the monopoly's fixed cost).
Deadweight loss will be: 0.5*(100 — 20)*(160 — 80) = $3200.